Work Completed

Research

Additional LED research was done to solidify concepts for the mounting of the system. Considerations like LED light intensity and eye safety were looked into. Also operating life was investigated to make sure the LEDs would last as long as possible. 100,000 hours seemed to be the general rule of thumb for most of the sources I investigated. Also precautions for the actual mounting process were looked into. Lead forming, mounting method, and temperature limits for soldering were really important topics to look into. Also the safety factor of heat dissipation was considered.

Contacts

Professor Northorp was again contacted to discuss a simplified circuit. The previous dimming option was found to be ineffective so a new schematic with that taken into account was drawn up. Additional calculations were done to make sure the hfe of the transistor was not exceeded. Patty Mitchell was once again contacted to inquire about the current painting system Tom is using. This is crucial in order to avoid mistakes that have already been made.

LED System

LED mounting options were drawn up. Dimensions were put together for multiple options for the LED light mount. It has been decided that an elongated box will be used to mount the LED system. The LEDs will be mounted inside and an clear plastic PVC sheet will be used to cover them up and protect them from mechanical damage. One box will be constructed out of aluminum and one will be constructed out of white PVC and they will be compared to see which is better when considering weight and functionality. The friction hinges were received for the easel frame and for the light box. The simplified circuit has had the parallel resistors from the LED portion of the circuit removed and replaced with a single resistor right before the LM555 chip. This will be tested with a potentiometer to attempt dimming yet again. Also the battery connector was found in stock at a local Radio shack and will be picked up as soon as the battery arrives to make sure it is the right connection.
Future Work

Next week the LED system will start its final mounting preparation. The components of the LED light box, actual LED mount and the circuit will be wired. The soldering and such will follow the preliminary set up of the circuit to ensure that everything is in working order. The hinges that were just received will be applied to the design. This may prove to be a large challenge.

Project Review

We are still on good track. All of the parts of the easel have been staged and at this point we are waiting on some parts to make any further progress. A good portion of the construction and machining has been done. We should still have ample time to complete construction and then do product testing.
Hours Worked

12 hours